Claims:

1. A cladding plate (2) for a microwave antenna, characterized in that the thickness of the cladding plate (2) increases proportional to

$$1/\sqrt{1-(\varepsilon_R + a/r^2)^{-1}}$$

with the distance r from a point of minimum thickness (11), wherein ε_R is the dielectric constant of the material of the cladding plate and a is a positive constant.

2. A cladding plate, in particular according to claim 1, the thickness of which increases off a point of minimum thickness (11), characterized in that the thickness profile of the plate (2) is created by milling.

3. The cladding plate of claim 2, characterized in that its thickness increases stepwise off the point of minimum thickness (11).

4. The cladding plate of claim 3, characterized in that the height of the thickness steps is 100 µm or less.

5. The cladding plate according to one of the preceding claims, characterized in that it is made of a homogeneous material.

6. The cladding plate according to one of the preceding claims, characterized in that it is assembled from various pieces (12).

7. The cladding plate of claim 6, characterized in that the pieces (12) meet at the point of minimum thickness (11).

8. An antenna assembly comprising a microwave antenna (1) and a cladding plate (2) intersecting the beam (6, 9) of the microwave antenna (1), in particular according to one of the preceding claims, the thickness (d) of which increases with the distance (r) from a point of minimum thickness (11), characterized in that the microwave antenna (1) is located on a surface normal issuing from the point of minimum thickness (11) of the cladding plate (2).

9. The antenna assembly of claim 8, characterized in that the thickness (2) at a point of minimum thickness (11) is given by

$$d_{\min} = \frac{m}{2}\frac{\lambda_0}{\sqrt{\varepsilon_R}}$$

wherein m is an integer, λ_0 is an operating wavelength of the antenna (1) in vacuum and ε_R is the dielectric constant of the material of the cladding plate, and that a maximum thickness of the cladding plate (2) is given by

$$d_{\max} < \frac{m}{2}\frac{\lambda_0}{\sqrt{\varepsilon_R - 1}}.$$

10. The antenna assembly of claim 8 or 9, characterized in that the thickness of the cladding plate (2) increases with the distance from the point of minimum thickness (11) proportional to

$$1/\sqrt{1-(\varepsilon_R + a/r^2)^{-1}},$$

wherein $a=\varepsilon_R D^2$, and D denotes the distance of the microwave antenna (1) from the cladding plate (2).

11. The antenna assembly of claim 10, characterized in that the distance D is several, preferably 10 to 20, wavelengths of a radio signal emitted or received by the antenna.